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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/784,867

02/23/2004

Ronald G. Fink

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EXAMINER

MAYEKAR, KISHOR

ART UNIT

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1795

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DELIVERY MODE

11/07/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/784,867	Applicant(s) FINK ET AL.	
	Examiner Kishor Mayekar	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) 1-17 and 33-47 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-32 and 48-53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of invention of Group II, claims 18-32 and 48-53 on 23 July 2008 is acknowledged. The traversal is on the ground(s) that the restriction requirement to the inventions in Groups I and II is improper due to the inventions described in the se claims are not "independent". This is not found persuasive because the record reflects that all of these groups are patentably distinct and have been propelled considered.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 19, 32 and 48 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 19, the recitation "a surface of the ... structure" is confusing as whether the recited surface is the same or different from the identical surface recited in claim

18.

In claim 32, the recitation "the inner UV light source" lacks antecedent basis.

In claim 48, the recitation "the photohydroionization cell" lacks antecedent basis.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 18-20, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roberson et al. (US 4,892,712) in view of Speer (US 6,315,963 B1). Roberson's invention is directed to a fluid purification. Roberson discloses that a device comprises an UV light source with a wavelength less than 425 nm and a catalytic target structure mounted around the UV light source, where the device can be used for the purification of water or for removing pollutant from air (Fig. 2; c. 6, l. 3-24; and paragraph crossing c. 1 and 2). Since Roberson discloses the limitation that the catalytic target structure is mounted around the UV light source, the limitation reads on the recited catalytic target structure mechanically coupled to and surrounding the UV light source. To the reaction

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with hydrate at the surface of the catalytic target structure, since Roberson discloses the exposing of the catalytic target structure to the UV light source in the presence of water, the reaction is inherently in Robinson's teachings. The difference between Roberson and the above claims is the recited UV light source with UV wavelength. Speer teaches in a device for treating fluids via photolytic and photocatalytic reactions the provision of the recited UV light source (c. 6, l. 31-46). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Robinson's teachings as shown by Speer because the substitution of art recognized equivalents as shown by Speer would be within the level of ordinary skill in the art.

As to the subject matter of each of claims 20, 22 and 23, Robertson discloses it in c. 2, l. 13-24.

6. Claims 18-23 and 27-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Say et al. (US 6,063,343) in view of Speer '963 and WO 02/102,497 A1. Say's invention is directed to a device for photocatalytic purification. Say discloses that the device comprises a UV light source and a catalytic target structure. Say also discloses in Examples 1 and 3 the use of a germicidal lamp and a black light lamp, respectively, and in Figs. 1 and 8 the position of the catalytic target structure to the UV light source. To the reaction with hydrate at the surface of the catalytic target structure, since Say discloses

in the Examples the exposing of the catalytic target structure to the UV light source in the presence of water, the reaction is inherently in Say's teachings. The differences between Say and the above claims are the recited UV light source with UV wavelength and the mechanically coupled arrangement of the catalytic target structure to the UV light source.

As to the first difference, Speer as applied above teaches in a device for treating fluids via photolytic and photocatalytic reactions the provision of the recited UV light source (c. 6, l. 31-46). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Say's teachings as shown by Speer because the selection of any of known equivalent UV light sources as shown by Speer would be within the level of ordinary skill in the art.

As to the second difference, WO '497 teaches in a device for air purification the arrangement of the photocatalytic target structure to the UV light source that the UV light source is mounted between a pair of support and the photocatalytic target structure is supported by the pair of support with the UV light source positioned therein (p. 7, l. 29-35). The pair of the support reads on the recited mechanically coupled arrangement. From Say's Figs. 1 and 8, it appears that Say's photocatalytic target structure and UV light source are supported by a same support. If not, the selection of any of known equivalent supports to commonly support Say's catalytic target structure and UV light source would have been within the level of ordinary skill in the art.

As to the subject matter of claim 20, Say discloses it in c. 4, l. 35-44.

As to the subject matter of claim 21, Say discloses it in Fig. 10.

As to the subject matter of claims 22 and 23, Say discloses it in c. 4, l. 7-9.

As to the subject matter of each of claims 27-32, Speer teaches the limitation (c. 8, l. 16-18 and 30-36). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Say's teachings because this would protect the UV light source from the fluid.

7. Claims 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Say '343 in view of Speer '963 and WO '497 as applied to claims 18-23 and 27-32 above, and further in view of Miller (US 6,053,968). Say as applied above further discloses the provision of sensors to warn a user of the non-operational UV light source (paragraph crossing c. 7 and 8). The difference between the references as applied above and the instant claims is the provision the recited fiber optic cable. Miller teaches in a device for fluid purification the provision of an indicator for indicating operational status of a UV light source (c. 5, l. 41-46). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the references' teachings as shown by Miller because the selection of any of known equivalent sensors for indicating the operational of the UV light source would be within the level of ordinary skill in the art. The same is applied to claims 25 and 26 since Miller teaches that

the indicator is optically shielded to prevent direct exposure to UV light.

8. Claims 48-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Say '343 in view of Speer '963, WO '497 and Miller '968, for the same reasons as applied to paragraphs #7 and #8 above and further of Say's teachings in c. 5, l. 52-65.

As to the subject matter of claim 50, since Say disclose in example different input power, it appears that the power supply is adjustable.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kishor Mayekar whose telephone number is (571) 272-1339. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on

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access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kishor Mayekar/
Primary Examiner, Art Unit 1795